Progress Evaluation: Milestone 1

Project: Cool Cyber Games: Interactive Platform for Teaching Cybersecurity

Team Members:

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Client: Sneha Sudhakaran | College of Engineering and Science: Department of Electrical Engineering and Computer Science

Progress of current Milestone (progress matrix)

Task	Completion %	Anthony	Matthew	Brice	Ben	To Do:
1. Investigate tools	100%	Backend, Database	Gamification, Frontend	Authentication	Frontend	None
2. Hello World demos	100%	Server/Database	Game	Login	Webpage	None

3. Requirement Document	100%	20%	50%	20%	10%	None
4. Design Document	100%	40%	20%	20%	20%	None
5. Test Plan	100%	30%	20%	20%	30%	None
6. Implement, test & demo feature/module	-	-	-	-	-	N/A (Miles tone 2)
7. Implement, test & demo feature/module	-	-	-	-	-	N/A (Miles tone 2)

1. Discussion of each accomplished task (and obstacles) for the current Milestone:

Task 1: Investigate Tools

- ○ Description: The team compared and selected technical tools, including React.js for the frontend, Node.js, render, and ExpressJS for the backend, MongoDB for the database, OAuth 2.0 for authentication, and Godot for gamification.
- ○ Obstacles: Initial debates over Angular vs. React.js arose due to team familiarity, resolved by prioritizing React's ecosystem. GoDot vs. Phaser was tricky; Godot was chosen for its robust simulation capabilities despite a steeper learning curve.

Task 2: Hello World Demos

- ○ Description: Created a functional webpage (frontend), a simple server with a test API endpoint (backend), a basic game in Godot, and a login demo with OAuth 2.0.
- ○ Obstacles: Integrating the Godot game with the webpage required troubleshooting WebGL builds. The backend ran into bandwidth issues when using GitHub LFS to store our larger game files. Our current solution is hosting the game .wasm file on render directly, or using GitHub releases.

Task 3: Requirement Document

- ○ Description: Drafted a document defining core features (tutorials, quizzes, simulations), technical specs, and target users.
- ○ Obstacles: Agreeing on feature prioritization was challenging; resolved by aligning with client goals for accessibility and gamification.

Task 4: Design Document

- ○ Description: Outlined system architecture (frontend-backend-game integration) and workflows for user progress tracking and simulations.
- ○ Obstacles: Balancing detail with flexibility for future changes was tough; overcome by focusing on modular design principles.

Task 5: Test Plan

- ○ Description: Developed a preliminary testing strategy covering unit tests (e.g., API endpoints), integration tests (e.g., frontend-backend), and usability testing.

- Obstacles: Learning to test a large-scale project is new to us, especially a web application where our changes make more impact and have a larger potential to break something than when coding something locally.

2. Discussion of contribution of each team member to the current Milestone:

- **Matthew Goembel**: Led gamification efforts, as well as some frontend examples. Selected Godot and built the first game demo. Wrote 70% of the Design Document and 70% of the Test Plan, plus 70% of the Requirement Document. Attended all Group meetings.

- **Anthony Clayton**: Focused on backend, login, and database setup, selecting Node.js, render, expressJS, and MongoDB. Created the demo Frontend, User Login, Server, and Database. Wrote 30% of the Design Document and 30% of the Test Plan, plus 30% of the Requirement Document. Attended all Group meetings.

- **Ludendorff Brice**: Attended some group meetings.

- **Ben Allerton**: Attended some group meetings.

Plan for the next Milestone (2)

Task	Anthony	Matthew	Brice	Ben
1. Implement, test & demo *feature/module*	Implement APIs for user authentication, progress tracking, and quiz scoring.	Implement Game 2 and start the third if time allows.	Implement multi-language support for at least two languages.	Continue website development and add components for user authentication and progress tracking.

2. Implement, test & demo *feature/module*	Implement backend support for interactive tutorials and quizzes.	Develop more interactive tutorials and quizzes.	Create content for tutorials and quizzes.	Ensure compliance with the platform.

3. Discussion of each planned task for the next Milestone (2)

Task 1: Core Features Implementation

- ○ Description: Develop APIs for progress tracking, interactive tutorials, secure login/registration, and quiz interfaces. Test and demo these features for functionality and user experience.
- ○ Details: Focus on seamless integration between frontend and backend, ensuring data persistence for user progress.

Task 2: Gamification and Authentication Enhancements

- ○ Description: Integrate games, quiz scoring logic, Google login, and a progress-tracking UI. Test for performance and security.
- ○ Details: Games will simulate basic cyber threats (e.g., phishing), and the UI will display badges and scores dynamically.

Task 3: Continued Frontend Development and Language Implementation

- ○ Description: Add and update web pages as needed. Finish site conversion to utilize React and multilingual support
- ○ Details: The webpage will be fully operational with React. Certain features and styles will be changed/altered due to the switch to the implementation of React.

Utilize React libraries to implement a solution that allows for seamless multilingual integration (Press a button in a dropdown menu to switch from English to the desired language, or it will automatically recognize it).

4. Date(s) of meeting(s) with Client during the current milestone:

    ○ *See Faculty Advisor Date(s) of meeting(s) below*

5. Client feedback on the current milestone

    ○ *See Faculty Advisor Feedback below*

6. Date(s) of meeting(s) with Faculty Advisor during the current milestone: …

    ○ 2/21: Reviewed final Milestone 1 deliverables.

    ○ 2/5: Discussed tool selections, demoed progress, discussed milestone one requirements

    ○ 1/29: Initial feedback on project scope and documents.

7. Faculty Advisor feedback on each task for the current Milestone

    ○ Task 1:
        Will be monitoring the progress to recommend addons or approval

    ○ Task 2:
        Will be monitoring the progress to recommend addons or approval

    ○ Task 3:
        Will be monitoring the progress to recommend addons or approval

    ○ Task 4:
        Will be monitoring the progress to recommend addons or approval

    ○ Task 5:
        Will be monitoring the progress to recommend addons or approval

Faculty Advisor Signature: _____ Date: ___02/22/2025_____